

LUPINUS ARIDORUM J. B. MCFARLIN EX BECKNER (FABACEAE),  
A NEW SPECIES FROM CENTRAL FLORIDA

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The following is the first of several papers which will discuss the leguminous genus Lupinus L. in Florida and adjacent regions. The new species described below is apparently so local and rare that it was never seen by J. K. Small or the numerous other botanical collectors who have explored the Florida peninsula. The late James B. McFarlin found a few plants at several locations in Polk County. He also learned of a colony found by S. F. Poole in Orange County. McFarlin named and gave a short account of this species on page 119 of his unpublished "Flora of the Central Portion of the Lake Region of Florida" (1935). The late Dr. Henry Conard tracked down and made available a copy of this important manuscript. In 1970, John and Pat Hall led me to a few locations in Orange County and we also searched unsuccessfully some areas in adjacent Lake County. In 1981, I showed these colonies to Dr. Richard P. Wunderlin and we found two more Orange County locations. Unless there are unidentified or misidentified collections of this species in some of the northern herbaria, perhaps filed under L. diffusus Nutt. or L. villosus Willd., it would appear that the above named six persons are the only ones to observe this very rare plant in nature.

Lupinus aridorum J. B. McFarlin ex Beckner, new species  
Biennis erecto, foliis concavo valdis et estipulatis,  
floribus carneis, vexillabus centriis nigribus,  
leguminibus ellipticis et parvus.

Monocarpic plant (presumed to be biennial, but rarely with a few weak inflorescences a year after normal flowering, followed by a rapid demise of the plant). Plant with a soft-woody erect main stem bearing sympodial ascending branches from the upper half, in total about 1/2 meter tall. Conspicuously silvery pubescent (more so than L. cumulicola Small, about equal to L. diffusus Nutt. and L. westianus Small, less shaggy than L. villosus Willd.). Leaves scattered on upper parts of branches (not as densely arranged as in most plants of the allied species). Mature petioles without stipules (or rarely a few very rudimentary stipules), 2 cm long (Polk County and Ocoee) to 4.0-4.5 cm long (Plymouth). Mature leaf blades from 4-6 cm long by 2-3 cm wide (Polk County) to 6-7 cm long by 3-4 cm wide (Orange County), obovate-elliptic, apex mucronate, both base and apex rounded, upper surface deeply concave in life, similar in color above and below. Peduncles 4-5 cm long (mostly Polk County) to 7-13 cm long (Orange County), bearing

several sterile and abortive bracts below the first flower, or rarely one or a few flowers scattered among these bracts, well below the main body of the inflorescence. Inflorescence 4-12 cm long (Polk County) to 12-15 cm long (Orange County), densely flowered, with a few adnate bractlets (only on the lowest flowers). Calyx 2-lipped, the upper lip 9-10 mm long, lanceolate, the apex short-acuminate, the lower lip 10-14 mm long, lanceolate, the 3-lobed apex abruptly-acuminate, the calyx-tube about 2 mm long. Corolla pale flesh-pink (said to be "white" in McFarlin 1086, but the specimens show traces of pigment), the standard with a prominent central area (extending to the apex) of black, surrounded by a maroon-red area that fades off on the sides to the pale flesh-pink color. Standard about 15 mm long overall, the blade 10-12 mm long by 7-9 mm wide, ovate, the apex apiculate, the sides folded upwards strongly from the mid-vein, which is almost horizontal over the keel and wing petals. Wing petals 14 mm long by 5 mm wide, obliquely oblong, the apex rounded. Keel upcurved, acuminate, 12 mm long. Fruit 2.0-2.5 cm long, elliptic, with an oblique acuminate apex and rounded base, woolly-pubescent. Seeds 1 to few per fruit, orbicular, flattened, 3.5 mm in diameter, pale gray, spotted with darker color.

HOLOTYPE: Bank of drainage canal, in back of factories, in scrub, just south of US 441, on FLA 437, Plymouth, Orange County, Florida, 13 Apr. 1970, J. Beckner (with John & Pat Hall) 2375 FLAS 112612.

ISOTYPES: Specimens consisting of branches from the same clone include FLAS 112611, plus duplicates to be distributed to FSU, NY, GH, USF, and NCU.

The type plant was in flower at the time of collection. This site has more recently been destroyed by industrial development.

Other collections: Orange Co.: near Plymouth, 13 Apr. 1970, Beckner, Hall, & Hall 2377 (FLAS, FSU); Ocoee, (fr.) 15 June 1970, Beckner 2404 (FLAS); near Little Lake Bryan, 10 Apr. 1981, Beckner 2462 (USF); near Palm Lake, 20 Mar. 1981, Wunderlin & Beckner 8948 (USF). Polk Co.: near Eagle Lake, 9 May 1937, McFarlin 10933 (FLAS); Inwood Scrub, 9 Mar. 1928, McFarlin 1086 (FLAS).

McFarlin stated that S. F. Poole had found this species in scrub west of Orlando and that he himself had found it at Lake Alfred (7341). He intended to cite his 4422, from the Inwood Scrub, as the type. I have not seen this collection and do not know its fate or condition. As is apparent from the above description, some differences in dimensions have been found

between the Polk and Orange County plants. The available specimens are too few to justify giving this any importance at present. However, if future studies should indicate that these differences are significant, perhaps a varietal name honoring Jim McFarlin would be appropriate for the Inwood population.

This beautiful and distinctive Florida endemic is nearly extinct, in part due to the clearing and disturbance of its habitat. However, many areas of seemingly appropriate ecology do remain within the vicinity of the few known colonies, yet careful search has failed to find the plants. The known colonies have consisted of only one to about a dozen clones each and seed production per plant is minimal. It does not grow with any of the allied species and presumably is not of hybrid origin. Lupinus aridorum is a member of the small group of unifoliate leaved lupines. Several other species occur in Florida, with two of these extending into states to the north. The remaining species occur in southern Brazil.

I wish to thank Dr. Richard P. Wunderlin, University of South Florida, Tampa, for his very considerable encouragement, patience, and assistance. He and I plan further studies of this rare lupine. I also wish to thank Dr. Daniel B. Ward of the University of Florida, John M. Hall III of Costa Rica, and Pat Hall of Lake Jem, Florida, each of whom was indispensable to the field work and study of this new species. The late Dr. Henry Conard and the late James B. McFarlin were friends who can no longer be thanked in person, but who played the central roles in making me aware of this previously undescribed species.